**City of Lodi, Dept. of Public Works**

**Secchi Disc "Dip-in" Sampling, Lodi, California**

**Transparency:**

| Site: | #1 Lodi Lake (Long.121°17 ' 30" Lat. 38° 9 ' 21 ") (North of Boathouse, Mid-Lake) Secchi reading | | | #2 Lodi Lake (East End/ Center of Lake) Secchi reading | | | #3 Mokelumne River (Main Channel, 500 yds. Upstream of WID dam) Secchi reading | | |
|---|---|---|---|---|---|---|---|---|---|
| **Date** | **Time** | **Depth meters** | **Depth Feet** | **Time** | **Depth meters** | **Depth Feet** | **Time** | **Depth meters** | **Depth Feet** |
| *11-Jul-01* | *13:50* | *1.5 m* | *4.9'* | *14:10* | *1.5 m* | *4.9'* | *13:55* | *3.0 m* | *9.8'* |
| *11-Jul-02* | *15:00* | *2 .0m* | *6.6'* | *15:00* | *1.95 m* | *6.4'* | *15:00* | *2.6 m* | *8.5'* |
| *11-Jul-03* | *11:00* | *2.4 m* | *7.9'* | *11:15* | *2.15 m* | *7.0'* | *10:45* | *2.85 m* | *9.3'* |
| *9-Jul-04* | *11:30* | *2.4 m* | *7.9'* | *11:20* | *1.85 m* | *6.1'* | *11:42* | *2.8 m* | *9.2'* |

## What is the Secchi Dip-In?

The concept of the Dip-In is simple: individuals in volunteer monitoring programs take a transparency measurement on one day in a period surrounding Canada Day and July Fourth. Individuals may be monitoring lakes, reservoirs, estuaries, rivers, or streams. These Secchi transparency values are used to assess the transparency of volunteer-monitored lakes in the United States and Canada.

The Dip-In also provides a national perspective of water quality. It gives a comprehensive glimpse at transparency at volunteer-monitored sites across the United States, Canada and the rest of the world. Scientists and volunteers can get a sense of how transparency varies according to water type, regional geology and land use. What is more important, these annual Dip-In snapshots can be put together to form a changing picture of transparency over time.

## What is a Secchi Disk?

A Secchi disk is an 8-inch (20 cm) disk with alternating black and white quadrants. It is lowered into the water of a lake until it can be no longer seen by the observer. This depth of disappearance, called the Secchi depth, is a measure of the ***transparency*** of the water. Transparency can be affected by the color of the water, algae, and suspended sediments. Transparency decreases as color, suspended sediments, or algal abundance increases. Water is often stained yellow or brown by decaying plant matter. Algae are small, green aquatic plants whose abundance is related to the amount of plant nutrients, especially phosphorus and nitrogen. Transparency can therefore be affected by the amount of plant nutrients coming into the lake from sources such as sewage treatment plants, septic tanks, and lawn and agricultural fertilizer. Suspended sediments often come from sources such as resuspension from the lake bottom, construction sites, agricultural fields, and urban storm runoff.

Transparency is an indicator of the impact of human activity on the land surrounding the lake. If transparency is measured through the season and from year to year, trends in transparency may be observed. Transparency can serve as an early-warning that activities on the land are having an effect on a lake.

Secchi Disk: